Tracking status and Plans

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General remarks about the review

In my opinion we should focus exclusively in the review on tracking options we understand very well. This means:

Inner barrel composed of MAPS detectors
TPC outer tracker
Intermediate tracker (if needed)

Of these, the role and requirements of the intermediate tracker are not well defined, and this has to be a big push before the review! Once we have pileup available in the simulations, we can assess whether we need it and what we need.

It should be noted that intermediate tracker silicon layers will worsen the mass resolution for Upsilons, so there is a negative impact we need to consider.

Some issues to be addressed before the tracking review

Event pileup
    Event pileup generation
    Time dependence added in g4main and g4detector
    Revision of generator workflow, node storage in progress
    Needs multiple vertexing (RAVE)
TPC code developments
    Mike's rework of handling of uncertainties in TPC code should be done soon
    Work on simplifying/understanding TPC code by Mike/SBU/Vanderbilt
TPC hardware
    Presentation by Tom Hemmick this morning, good progress on all fronts
    Computing requirements under study
    Electronics under study
MAPS hardware
    LDRD awarded, focus on C&S action items from internal review
Intermediate tracker (between MAPS and TPC)
    Do we need it to reconstruct pileup events?
        Has to be settled by simulations before tracking review
    What radius, configuration should it have to optimize performance?
    What effect does its thickness have on mass resolution?
        Being studied in cylinder cell geometry